

**EAST COUNTY SOIL CONSULTATION
AND ENGINEERING, INC.
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Stanley and Betty Boney
P. O. Box 428
Crystal Bay, Nevada 89402

November 6, 2020
Project No. 19-1254C2

**Subject: Infiltration Test Results for Proposed Infiltration Basins
Secret Hills Ranch
Southeast End of Via Tesoro, Alpine Area
County of San Diego, California 91901, APN 520-060-18**

Reference: "Geotechnical Investigation for Proposed Secret Hills Ranch, Southeast End of Via Tesoro, Alpine Area, County of San Diego, California 91901, APN 440-450-24", Project No. 19-1254C2, Prepared by East County Soil Consultation and Engineering, Inc., Dated February 21, 2020.

Dear Mr. and Mrs. Boney:

In accordance with your request, we have performed infiltration tests in the areas of the proposed infiltration basins at the subject site. The locations of the infiltration tests are shown on the attached Figure 1. The tests were performed in accordance with the County of San Diego BMP Design Manual.

Percolation tests were performed on pre-saturated soils using the Borehole Test Method on September 4, 2020. Borehole depths varied from 2.5 to 5.0 feet. The soils at the bottoms of the boreholes consisted of colluvial soils and weathered granite soils (see referenced report).

Percolation rates were converted to infiltration rates using the Porchet Method. A factor of safety of 3 was applied to the results in accordance with the County BMP design manual. The test results are as follows:

WATER INFILTRATION RATES

Infiltration Test No.	Borehole Depth (Feet)	Percolation Rate (Inches/Hour)	Infiltration Rate (Inches/Hour) Safety Factor = 3
600	4.0	14.05	0.14
601	4.5	1.62	0.11
602	5.0	22.50	0.68
603	2.5	2.92	0.09
604	NA	--	--
605	4.0	12.96	0.45

Accordingly, it is our opinion that onsite storm water infiltration is feasible from a geotechnical standpoint.

This opportunity to be of service is appreciated. If you have any questions, or we can be of further service, please do not hesitate to call or contact us.

Respectfully Submitted,



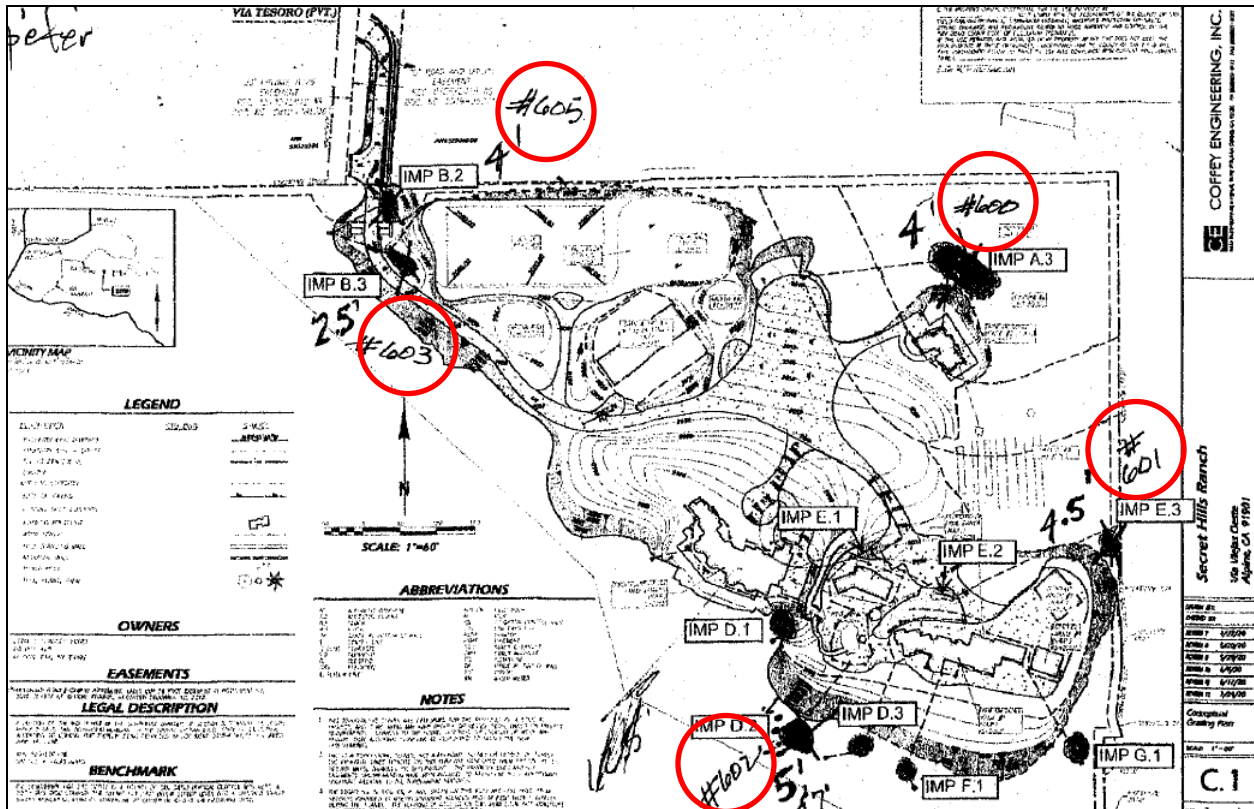
Martin R. Owen, PE, GE
Geotechnical Engineer



Attachments:

- Figure 1, Infiltration Test Locations
- Tables D.1-1 and D.2-1, San Diego County BMP Design Manual

FIGURE 1 INFILTRATION TEST LOCATIONS



TABLES D.1-1 AND D.2-1 SAN DIEGO COUNTY BMP MANUAL

Table D.1-1: Considerations for Geotechnical Analysis of Infiltration Restrictions

Restriction Element		Is Element Applicable? (Yes/No)
Mandatory Considerations	BMP is within 100' of Contaminated Soils	No
	BMP is within 100' of Industrial Activities Lacking Source Control	No
	BMP is within 100' of Well/Groundwater Basin	No
	BMP is within 50' of Septic Tanks/Leach Fields	No
	BMP is within 10' of Structures/Tanks/Walls	No
	BMP is within 10' of Sewer Utilities	No
	BMP is within 10' of Groundwater Table	No
	BMP is within Hydric Soils	No
	BMP is within Highly Liquefiable Soils and has Connectivity to Structures	No
	BMP is within 1.5 Times the Height of Adjacent Steep Slopes (≥25%)	Yes, Only IMP D.1
County Staff has Assigned "Restricted" Infiltration Category	No	
Optional Considerations	BMP is within Predominantly Type D Soil	No
	BMP is within 10' of Property Line	Yes, Only Imp E.3
	BMP is within Fill Depths of ≥5' (Existing or Proposed)	No
	BMP is within 10' of Underground Utilities	No
	BMP is within 250' of Ephemeral Stream	No
	Other (Provide detailed geotechnical support)	No
Result	Based on examination of the best available information, I have <u>not identified any restrictions</u> above.	<input type="checkbox"/> Unrestricted
	Based on examination of the best available information, I have <u>identified one or more restrictions</u> above.	<input checked="" type="checkbox"/> Restricted

Table D.2-1: Elements for Determination of Design Infiltration Rates

Item	Value	Unit
Initial Infiltration Rate Identify per Section D.2.1	See Infiltration Test Report	in/hr
Corrected Infiltration Rate Identify per Section D.2.2	See Infiltration Test Report	in/hr
Safety Factor Identify per Section D.2.3	See Infiltration Test Report	unitless
Design Infiltration Rate Corrected Infiltration Rate ÷ Safety Factor	See Infiltration Test Report	in/hr



Martin R. Owen